WHAT IS CLAIMED IS:

1. A semiconductor device for receiving input signals having different center amplitude levels, the semiconductor device comprising:

a detection circuit for detecting a center amplitude level of the input signals to generate a control signal; and

a conversion circuit connected to the detection circuit to convert the input signals to a signal having a certain level in accordance with the control signal.

2. The semiconductor device according to claim 1, wherein:

the conversion circuit includes a plurality of receiving circuits for receiving a plurality of input signals having center amplitude levels that differ from one another and for generating an output signal having a common level; and

the detection circuit generates the control signal to validate one among the plurality of receiving circuits in accordance with the detected center amplitude level.

3. The semiconductor device according to claim 2, wherein among the plurality of receiving circuits, a receiving circuit that is invalidated in response to the control signal sets its output terminal at high impedance.

4. The semiconductor device according to claim 1, wherein:

the conversion circuit is a receiving circuit having a plurality of determination levels, and the receiving circuit changes the determination level based on the control signal to convert each of the input signals to a signal having a

certain level in accordance with the determination level; and

the detection circuit generates the control signal so that each determination level of the receiving circuit corresponds to the center amplitude level of each of the input signals.

5. The semiconductor device according to claim 4, wherein:

the receiving circuit includes a MOS transistor having a gate provided with the input signals, a current source connected to the MOS transistor, and a conversion circuit connected to the MOS transistor for converting current that flows through the MOS transistor to voltage; and

the current source changes current amount in response to the control signal of the detection circuit to change the determination level.

6. The semiconductor device according to claim 4, wherein:

each of the input signals is a differential signal, the semiconductor device including a pair of MOS transistors having gates, each being provided with the differential signal, a current source connected to the pair of MOS transistors, and a conversion circuit connected to the pair of MOS transistors to convert current flowing through the pair of MOS transistors to voltage; and

the current source changes current amount in response to the control signal of the detection circuit to change the determination level.

7. The semiconductor device according to claim 5, wherein the current source includes a plurality of constant

current sources corresponding to the center amplitude level of the input signal and changes the number of the constant current sources that are driven in response to the control signal of the detection circuit to change the current amount.

8. The semiconductor device according to claim 1, wherein the detection circuit includes a plurality of comparators respectively corresponding to the plurality of center amplitude levels, and each of the comparators receives a reference potential corresponding to the associated center amplitude level and compares the reference voltage with voltage of the input signal, and the detection circuit generates the control signal based on comparison results of the plurality of comparators.

9. A semiconductor device for receiving an input signal having different center amplitude levels, the semiconductor device comprising:

a detection circuit for detecting a center amplitude level of the input signal to generate a control signal; and

a selection circuit connected to the detection circuit for selecting a determination level of the input signal in accordance with the control signal.

10. A data transfer system comprising:

a first device for outputting a data signal;

a second device for receiving the data signal as an input signal, the second device including:

a detection circuit for detecting a center amplitude level of the input signal and generating a control signal; and

a conversion circuit connected to the detection

circuit for converting the input signal to a signal having a certain level in accordance with the control signal.

11. A data transfer system comprising:

a first device for outputting a data signal;

a second device for receiving the data signal as an input signal, the second device including:

a detection circuit for detecting a center amplitude level of the input signal and generating a control signal; and

a selection circuit connected to the detection circuit for selecting a determination level of the input signal in accordance with the control signal.